Abeeway
Improve your position

MICRO TRACKER

Available on the App Store
GET IT ON Google Play
Microsoft Azure Certified Device

Light - Handy - Powerful

The Abeeway Micro Tracker is a multi-mode tracker with embedded sensors combining multi-constellation GNSS[1], Low-power GPS[2], Wi-Fi Sniffer[3], BLE and LoRaWAN® TDoA[4] geolocation technologies, for **seamless outdoor and indoor geolocation.**

The Micro Tracker is versatile and multi-purpose. With its small size and long battery life, it is the ideal product for contact back-tracing and numerous tracking applications of things of value, people or pets. At the touch of a button, you have access to a variety of functionalities personalized for your needs.

Applications

- Workforce optimization and safety: lone workers monitoring, tracking, zone alerts and SOS panic button alerts on construction sites, mines, oil & gas platforms, factories and other industrial indoor and outdoor facilities
- Contact back-tracing, proximity detection for sanitary policy enforcement
- Tracking and monitoring of assets, vehicles, machines and equipment
- Antitheft applications, notification and location trigger when device is moving, at fixed frequency updates or on demand
- Geofencing applications: alerts when leaving/entering specific areas
- Personal tracking with help button: employees, elderly, children
- Personal assets protection: cars, motorbikes, bikes, keychains, luggage, handbags or pets.

Product Highlights

Multiple operating modes:

- **Motion Tracking:** High-resolution position when motion is detected
- **Permanent tracking:** Periodic interval position
- **Start/End motion tracking:** Receive position messages during motion start and end events
- **Fix on demand:** Obtain tracker position when needed (very low power operating mode)
- **Activity tracking:** Monitor activity rate with embedded sensors

Geolocation technologies:

- Multi-constellation GNSS[5] Precise outdoor position with GPS/Baidu/Glonass/Galileo
- Low power GPS[6]: Fast Time To First Fix in outdoor and light indoor conditions
- BLE/Wi-Fi[7]: Positionning for indoor and urban area

Other features

- Geofencing zone detection
- Edge computing for Proximity detection and exposure assessment
- User interface: 80 dBa buzzer, bicolor LEDs, button
- Temperature monitoring
- LoRaWAN® Class A radio
- BLE Communication link with a phone
- Water-spray resistant enclosure (IP65)
- ATEX Certified for explosive atmosphere[8]
- Firmware Upgrade via USB
- 450mAh rechargeable battery
- BLE scan function for inventory of tools and accessories
- Indoor BLE/WiFi fingerprinting with HERE Tracking (requires subscription)
- Indoor BLE based geolocation with Quuppa Intelligent Location (requires Quuppa infrastructure)
- BLE based safe/hazard zone detection

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MICRO TRACKER SPECIFICATIONS

Physical configuration

Size	59mm x 34 mm x 13 mm (L x l x h)
Weight	21g
Waterproof capability	IP65
Operating temperature	-10°C to 55°C
Charging temperature	0°C to 45°C
Storage temperature	10°C to 30°C (recommended)
Time storage max	6 months
Humidity	5% to 95% non-condensing

Estimated battery lifetime

Use Case	Battery Life (Approx.)
1 GNSS position / hour	17 days [10]
1 LPGPS position / hour	14 weeks [10]
1 WiFi position / hour	5 months
Standby	10 months

Data communication support

LoRaWAN® Modem	Semtech SX1261
Protocol	LoRaWAN Class A
LoRaWAN® Frequency bands [9]	EU868MHz / US915MHz / AS923MHz / AU915 MHz
Configuration supported	LoRaWAN® OTA or ABP
RF output power [9]	14 dBm / 16.5 dBm (max)
Min sensitivity of LoRaWAN® receiver	-130 dBm in SF10 -135 dBm in SF 12
Wi-Fi Frequency band	2412 – 2472MHz
WI-FI sniffer sensitivity	-86 dBm
BLE sensitivity	-88 dBm
BLE RF output power	4 dBm max
BLE frequency band	2402 – 2480MHz
GNSS band	1575 – 1610MHz

Standards and Certifications

LoRa Alliance EU868, US915, AS923, AU915
Radio regulatory certification : EC, FCC, IC, TELEC
ATEX[8] Group II Zone 2 and 22 compliant with ATEX Directive 2014/34/EU, Directive RED 2014/53/EU (for use in hazardous areas classified as Zone 2, Gas Group IIA, IIB or IIC and Temperature Class T4)

Position accuracy

GNSS[10] (GPS/Baidu/Glonass/ Galileo)	Position Accuracy (Standard deviation)	3 meters	
	Time To First Fix	Cold start	40-60 seconds
		Hot start	<5 seconds
	Acquisition sensitivity	-140 dBm	
Low power GPS[10]	Position Accuracy (50%-90%)	15 - 30 meters	
	Time To First Fix	<10 seconds	
	Acquisition sensitivity	-144 dBm	
Wi-Fi[12]	Indoor and Deep Urban Position Accuracy	20 - 50 meters	
	Time to get a position	3 seconds	
BLE for positionning[12]	Indoor Position Accuracy Time to get a position	5 - 15 m 1 second	
BLE for proximity	Proximity Detection accuracy	See Proximity Application Note	

MICRO TRACKER SPECIFICATIONS

Power management

Rechargeable Battery	3.7V	0.45 Ah
Battery type	Lithium Polymer	
Charging cable	5V from a standard micro USB charger	

Product references[13]

Product	SKU
MICRO TRACKER EU868	DEABE0XX-XXEU - DEABE0XX-XXEU-Ex2[14]
MICRO TRACKER EU868 – no GPS and WiFi	DEABE0XX-XXEU-BLE Only
MICRO TRACKER US915	DEABE0XX-XXUS - DEABE0XX-XXUS-Ex2[14]
MICRO TRACKER US915 – no GPS and WiFi	DEABE0XX-XXUS-BLE Only
MICRO TRACKER AS923	DEABE0XX-XXAS - DEABE0XX-XXAS-Ex2 [14]
MICRO TRACKER AS923 – no GPS and WiFi	DEABE0XX-XXAS-BLE Only
MICRO TRACKER AU915	DEABE0XX-XXAU - DEABE0XX-XXAU-Ex2 [14]
MICRO TRACKER AU915 - no GPS and WiFi	DEABE0XX-XXAU-BLE Only

1) Option, GNSS/GPS not available in all models (refer to SKU list)

2) Option, requires GNSS enabled model and server-side Assisted GPS subscription to ThingPark Location

3) Option, requires WiFi enabled model and ThingPark Location WiFi solver subscription

4) Requires TDoA Location Solver option in ThingPark Wireless, ThingPark Enterprise or 3rd party LoRaWAN network server

5) Precise outdoor position with GPS/Baidu/Glonass/Galileo

6) Fast Time To First Fix in outdoor and light indoor conditions

7) Positionning for indoor and urban area

8) - ATEX Zone II: Ex II 3 G Ex ic IIB T4 Gc (-20°C ≤ Tamb ≤ +40°C)
Ex II 3 D Ex ic IIIB T135°C Dc (-20°C ≤ Tamb ≤ +40°C)

9) Channel frequencies and Transmit output power level are country specific and controlled by the operator, supported frequencies and regional certifications differ according to ordering codes (refer to SKU list)

10) Assuming 5 satellites at -130dBm input power and the tracker has acquired Almanac by placing the tracker in open sky in good conditions. The Almanac acquisition can take 15 mins – 1 hour depending on the conditions

12) Requires BLE location solver, accuracy depends of the BLE beacon or WiFi AP density and physical layout of the premises

13) All SKUs subject to MOQ. Contact local sales representative to enquire for conditions and pricing. Some SKUs are pre-orders that will be available in Q4 2020

14) ATEX Zone II version of the product.

Abeeway is the market leader in low-power geolocation and a provider of disruptive IoT tracking solutions worldwide. Abeeway offers the most energy-efficient, reliable and flexible geolocation solutions using unique tracking devices and a smart multi-technology location system optimized for long-range and low-power-consumption LoRaWAN® connectivity. The system makes precise geolocation power-efficient for various environments by combining high-precision GPS, our patented cloud computing technology Low Power GPS and ultra-low-consumption Wi-Fi sniffing technique. Offering the fastest time-to-market, Abeeway delivers a complete end-to-end solution for mass-market IoT sectors for asset tracking and management, process and decision optimization and personal safety.
Abeeway is a member of LoRa Alliance™ and is part of the Actility Group. Actility Group is a leading provider of LPWA IoT connectivity solutions, tools, business services and applications.